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ABSTRACT

In August, 1997, Gavilan College (Gilroy, California) was awarded a Fund for Instructional Improvement grant to review the current and projected roles of information competency instruction within California community colleges and to develop an information competency draft plan for system implementation, training, and evaluation. Five day-long workshops were held in which 139 participants from 67 California community colleges provided feedback. Recommendations were developed in the following areas: (1) staff development; (2) a collaborative environment, including new and continuing roles for libraries/librarians; (3) knowledge and technology infrastructure support, including the library collection--both print and electronic; (4) the challenge of developing courses and proposing changes in degree requirements, including California statutory law and administrative regulations; and (5) instructional models. The report includes a timeline for implementation of recommendations. Appendices contain information competency standards and resolutions; the information competency component for instruction in California Community Colleges; information competency plan project meetings; workshop participants; and information competency sample models. (AEF)

Information Competency Plan

for the California Community Colleges

Submitted to

The Chancellor's Office
California Community Colleges

Prepared by

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Executive Summary

"Information competency is a subset of critical thinking representing an individual's ability to recognize the need for information and to find, evaluate, incorporate, use, create and communicate data from a variety of sources and in a variety of contexts."

Over a million students enter California's 106 community colleges each year. Their learning landscape is strikingly different from that experienced by yesterday's undergraduates in yesterday's classrooms. Students must learn how to acquire, manage, and analyze large quantities of information. Information and knowledge is expanding rapidly and the ability to quickly review and use relevant information through the appropriate technologies has become a valued skill.

The problem is most students arrive on campus without information competency skills. They lack information retrieval skills necessary for a successful collegiate or vocational experience, or to support lifelong learning. This problem is exacerbated by the changing nature of work in the 21st century, which will demand highly skilled and well-educated workers who will need to continuously update their skills and knowledge.

During the 1990s, important studies, reports, proclamations and resolutions from various segments of the educational world pointed to the need for information literacy or information competency. The Chancellors' Offices of CSU and of the CCCs have taken a leading role in addressing the challenges of the Information Age in learning and teaching. Further, the State Academic Senate for the CCCs recommends the fundamentals of information competency be introduced in orientation/learning skills classes and developed in general education transfer courses.

In August 1997, Gavilan College was awarded a Fund for Instructional Improvement grant to review the current and projected roles of information competency instruction within the California community colleges and to develop an Information Competency Draft Plan for system implementation, training and evaluation. A total of 139 participants from 67 California community colleges attended the five workshops held across California in February and March of 1998. They provided feedback and recommendations. Additional consultations took place with educational segment groups at board meetings and related occasions during March through May 1998.

Key issues discussed in the workshops and other meetings have been sorted into five topical areas: A) staff development, B) a collaborative environment, C) knowledge and technology infrastructure support, D) the challenge of developing courses and proposing changes in degree requirements, and E) curricular models. Proposed solutions to issues addressed are listed in this planning document, followed by a timeline for implementation.

Introduction

Over a million students enter California's 106 community colleges each year. Their learning landscape is strikingly different from that experienced by yesterday's undergraduates in yesterday's classrooms. Ever-increasing waves of data are engulfing our culture, due to well-known innovations in storing, organizing and accessing information. "The continuing shift from an industrial-based to a knowledge-based society appears certain," states the Board of Governors of the California Community Colleges (CCC Board) in their 1996 publication, *The New Basic Agenda, Policy Directions for Student Success*. "What is not altogether clear, however, is the set of specific skills and knowledge that will best prepare community college students for the emerging work place in a rapidly changing culture."

"At one level," the Report continues, " 'learning to learn' will be of major importance, including critical thinking, problem solving, and communications skills. Students must learn how to acquire, manage, and analyze large quantities of information. The expansion of information and knowledge is proceeding at such a pace that the ability to quickly review and discard irrelevant information through the use of appropriate technologies, for instance, becomes a valued skill."

The Report notes, the "characteristics and experiences of entering students" are changing, and suggests "as students come from a greater variety of cultures and backgrounds, it is likely that their learning styles will vary more widely than they did in the past. The challenge of varied learning styles becomes all the more complex because the knowledge and skills students need from the community college area are also becoming more, rather than less, complex."

The problem, then, as noted in national as well as California State University (CSU) and California Community College (CCC) studies: most students arrive on campus without information competency skills. They lack information retrieval skills necessary for successful collegiate or vocational experience, or to support lifelong learning.

Organizations and government offices at both the state and national level are responding to the need for a new literacy brought on by the Information Age. Examples may be found in Appendix A.

A. National Perspectives on Information Competency

In 1989, The American Library Association Presidential Committee on Information Literacy published a report drafted by a group of national leaders - primarily from education and librarianship. Their document continues to be a centerpiece on this issue, and the parameters of their discussion continue to be useful in discussing the importance of what they termed information literacy - and this report calls information competency. A 1998 ALA progress report provides a summary of the original document, which:

- "explained the enormous impact of the information explosion on all people: in their individual lives, in their business, and even in their functions as American citizens."

- "emphasized repeatedly the need for all people to become information literate, which means that they are not only able to recognize when information is needed, but they are also able to identify, locate, evaluate, and use effectively information needed for the particular decision or issue at hand. The information literate person, therefore, is empowered for effective decision making, freedom of choice, and full participation in a democratic society."

- "stressed that this nation's economic independence and quality of life was becoming increasingly dependent on all of its citizens becoming lifelong learners – something that would have to start with a basic change in the way young people learn. To respond effectively to an ever-changing environment," the report concluded, "people need more than just a knowledge base, they also need techniques for exploring it, connecting it to other knowledge bases, and making practical use of it. In other words, the landscape upon which we used to stand has been transformed and we are being forced to establish a new foundation called information literacy."

In the 1980s, failures and problems in educational achievement included the much-cited studies: *A Nation at Risk, Prologue and Major Recommendations of the Carnegie Foundation's Report on Colleges,* and *The Crisis in California School Libraries.*

During the 1990s, a plethora of important studies, reports, proclamations and resolutions from various segments of the educational world pointed to the need for information literacy or information competence/competency, the term more in use throughout California and the nation at present. Early on, the National Association of Supervision and Curriculum Development, in its 1991 report *Issues and Results* urged "schools, colleges, and universities to integrate information literacy programs into learning programs for all students."

Documents providing a rich background on these issues and the key studies are Carolyn Norman's *Information Competency in the California Community Colleges, a Status Report,* issued in March 1996 and *Basic Library and Information Competencies, a Unified State-Wide Approach, Final Report,* 1995 by Inez Cohen and Elmer Jan.

Along with these studies, came reports and projections on the changing nature of work in the 21st century, forces shaping the American economy, and the interrelated issues of workforce preparation, job training and education. *What Work Requires of Schools, a SCANS Report for American 2000*, for example, was issued by the US Department of Labor in 1991. Responding to the American workforce shifting to an information-based economy, the report identified five "competencies" central to job performance in the coming decades, including "the ability to use information." These SCANS

"competencies" have, by this date, permeated curriculum design discussions at all levels, grant proposals, and the literature at large.

A 1997 Department of Labor-funded study, *Workforce 2020*, issued by the Hudson Institute, dramatically highlights the impact of the Information Age on the American worker in the immediate future. This document is particularly relevant. Students now enrolled in college will experience the full brunt of the economic forces outlined. These students, it posits, will encounter a changed work environment. Increasingly, successful companies will require adaptability in management structures, ever-shorter product cycles, and premiums placed on the rapidity and responsiveness to product design, engineering and marketing. Workers will change jobs and even occupations more often than in the past and demands by developing technologies for highly skilled and well-educated workers will require continuous updating of skills and knowledge, a true lifelong learning requirement that appears well matched with the CCC mission.

The Chancellors' Offices of CSU and of the CCCs have taken a leading role in addressing the challenges of the Information Age in learning and teaching. Appendix B provides a brief background of this involvement and making use of the California Community College Fund for Instructional Improvement in addressing this issue.

During this same period, the Academic Senate for California Community Colleges (Academic Senate) took action. In 1996 the Academic Senate adopted a resolution urging "the Chancellor's Office and the CCC Board of Governors to acknowledge that any development in information competency components and/or programs be the primary responsibility of the Academic Senate for California Community Colleges." In April 1998 the Academic Senate adopted a position paper *Information Competency in the California Community Colleges.*

Recommendations of the paper included:

- That the fundamentals of information competency can be introduced in college orientation/learning skills classes. The concepts of information competency can be further developed by embedding them in general education transfer courses and in courses that are required for certificate and/or degree programs.
- That faculty revise their curriculum to assure that the key components of information competency are covered.
- That the training of faculty in the educational uses of information competency be a priority in the distribution of faculty development funds.

B. What is Information Competency?

It is not surprising that in a system with 106 colleges, there is a variety of working definitions of information competency. Participants from the first CCC workshop onwards noted the importance of working with a clear and generally agreed definition.

Without basic agreement on what we are talking about, it would be difficult to work with administrators and discipline faculty.

The one-sentence definition used throughout our workshops was "information competency is a subset of critical thinking representing an individual's ability to recognize the need for information and to find, evaluate, incorporate, use, create and communicate data from a variety of sources and in a variety of contexts." Concurring on this definition are the American Library Association, Association of College and Research Libraries, the National Commission on Library and Information Science, the National Forum on Information Literacy, and the American Council of Education. These basic elements are reflected as well in the CSU Work Group on Information Competence report.

An Academic Senate's position paper defines information competency as *"the ability to find, evaluate, use, and communicate information in all its various formats. It combines aspects of library literacy, research methods and technological literacy. Information competency includes consideration of the ethical and legal implications of information and requires the application of both critical thinking and communication skills."* Given the central role of the Academic Senate in curriculum matters, we are using the Senate definition as the working definition in this paper, with the addition to their definition of *"the ability to recognize the need for information."*

The Academic Senate position paper calls for a listing of "key components for information competency, expectations of what students need to know before they complete their educational endeavors...." This information, along with that of working models within California higher education, should help to put into context the components of information competency that could go into a proposed course or a revision of a present course.

Thus, this planning document commends the Academic Senate recommendations and proposes the CCC Board adopt the Senate definition and implementation path as well as the following listing of the key components of information competency. In order to be able to find, evaluate, use and communicate information, students must be able to demonstrate the following skills in an integrated process:

- Recognize the need for information. (This item added by the Information Competency Ad Hoc Advisory Committee.)
- State a research question, problem or issue.
- Determine information requirements in various disciplines for the research questions, problems or issues.
- Use information technology tools to locate and retrieve relevant information.
- Organize information.
- Analyze and evaluate information.
- Communicate using a variety of information resources and technologies.

- Understand the ethical and legal issues surrounding information and information technology.
- Apply the skills gained in information competency to enable lifelong learning.

C. The Information Competency Plan

In August 1997, Gavilan College was awarded a Fund for Instructional Improvement (FII) grant to review the current and projected roles of information competency instruction within the California Community Colleges and to develop an Information Competency Draft Plan for system implementation, training and evaluation, in consultation with a 13-member Information Competency Ad Hoc Advisory Committee (IC Committee). The original charge was "to develop a plan for information competency as a prerequisite to the certificate and/or the associate degree in the California Community Colleges." The IC Committee later modified the charge "to develop a plan for integrating information competency into the certificate and/or the associate degree programs in the California Community Colleges."

The Planning Process

An organizational meeting of the IC Committee met in December 1997, to organize the process. (Members are listed page 2.) This was followed by five daylong workshops hosted by Foothill College, College of the Sequoias, Butte College, Riverside Community College and the Los Angeles Pierce College, held across California in February and March of 1998. Additional consultations took place with educational segment groups at board meetings and related occasions during March through May. In the five workshops, a total of 139 participants from 67 California Community Colleges provided feedback related to the current and projected roles of information competency instruction within the California Community Colleges, making a series of recommendations concerning system implementation, training and evaluation.

This project is consistent with California State University published discussions on information competency. Members from the CSU Chancellor's office participated in the workshop sessions, along with members from CSU campuses.

Methods Used to Develop the Plan

- The workshop approach
- Meetings with educational segment groups
- Research: reviewing documentation and legislation
- IC Committee advisory meetings
- An IC Committee website for sharing information
- Consultations with innovators on similar projects and with government officials

Findings

Workshop participants responded to several questions during breakout sessions. They were asked to answer the following: (1) identify keys to successfully integrating information competency programs on your campus (2) what are the resources you need to do this? (3) what staff development opportunities and faculty training do you recommend? (4) how will information competency be established, developed and supported as part of the instructional program within California community colleges? (5) what aspects of the California community college culture inhibit or enhance the establishment of a program in information competency and (6) review and respond to the information competency draft resolution.

Several key issues emerged from the discussions. They were:

- The library's continuing institution-wide responsibility to select, access and subsidize information resources for classroom instruction and its enlarging role in teaching students and faculty to identify, locate and evaluate information.
- Staff development and in-service training of librarians and discipline faculty.
- Methods of assessing information competency of students.
- Funding for resources, personnel, equipment, maintenance, support and staff development/training, etc.
- Need for a technology infrastructure on campus.
- Incentives or rewards to encourage collaboration and innovative instruction.
- Course design issues.
- Need to forge connections with K-12, CSU and UC regarding articulation and matriculation issues.
- Sharing innovative program information.
- Develop model programs.
- Local solutions to best meet local needs.

This report regroups these key issues into the following five topics which will be discussed in the body of the report.

- Staff development
- Collaborative environment
- Models
- Knowledge and technology infrastructure support
- The challenge of developing courses and proposing changes in degree requirements

Issues and Recommendations

A. Staff Development

Making effective changes in organizations, educational or otherwise, is a complex process. To ensure information competency in community college students, we must as well ensure the information competency of librarians, discipline faculty, support staff, and administrators. The time and money needed to do this must be provided.

"The need for faculty development," states the Academic Senate report, "is paramount and support must be provided for instructional design. Information competency must also compete with a variety of other faculty development needs and these funds are often not available for reassigned time and materials to develop these competencies." Supporting evidence:

- The CSU report succinctly poses the problem: " Before a professor can teach students to do a hypermedia project or understand the provisions of the copyright act or discuss the ethics of e-mail, he or she must have considerable faculty development opportunities. With the rapid pace of technological change, skills need continual updating and renewing."

- CCC Board Policy: Addressing the issue of new and diverse learning styles and use of more technology in teaching, in *The New Basic Agenda* the CCC Board noted the need for faculty to be "given adequate opportunity to learn about these issues and opportunities and have access to the technology."

- Academic Senate: "Before the information competency of students can be ensured, information competency of the faculty must be ensured, and the time and money needed to do this must be provided. If faculty is to foster information competency skills in their courses, faculty skills must be enhanced. With the rapid pace of technological change, skills need continual updating and renewing.

- Overwhelmingly workshop participants echoed the same concerns.

Recommendations

1. Faculty development strategy:

A well designed, multi-dimensional faculty development strategy must be developed and made available to all faculty members in the CCCs to enhance the understanding of information competency. It would be particularly effective if integrated into overall staff development training opportunities.

- *AA1. Statewide conference.*

An initial statewide conference using a team approach to a) review proposals in the Information Competency Plan, b) enhance understanding of information competency and c) present model programs in use and in the development stage. The conference would invite instructional teams from all 106 community colleges. Each team, including an administrator, a discipline faculty member and a librarian, would select models infusing information competency to best meet the needs of their college.

- *AA2. Subsequent conferences.*
  Subsequent statewide conferences would provide discipline-specific models and evaluate progress from the previous year's programs. Presenters would include representatives from national organizations representing educational segments and disciplines, as well as state and national officials involved in information competency issues.

- *AA3. Website.*
  Provide a website to disseminate training materials and opportunities, e.g., interactive web tutorials on facets of information competency.

- *AA4. Consultant.*
  Designate an information competency consultant/webmaster to provide support on a) sharing information on models under development or in use in CCCs, b) assessing via an annual report how well the models meet their goals, c) providing liaison with state and national efforts fostering and supporting information competency efforts, and coordinating funding opportunities and d) providing liaison with various cooperative efforts, particularly between CSU, private industry and the CCCs.

- *AA5. Collaboration strategies.*
  Explore strategies for collaboration with systems' staff members and highlight programs identifying effective collaboration.

- *AA6. Fund hardware and software.*
  Routinely fund staff hardware and software supporting networking and other aspects of libraries and resource use. Replacement equipment and support staff should be budgeted to make the best use of college instructional resources.

2. Identify and systematize levels of funding and training support related to information competency.

- *AB1. Regional pilot projects.*
  The Library and Learning Resources Programs Advisory Committee of the Chancellor's Office to identify funding opportunities of regional pilot training projects.

- *AB2. Local funding.*

Encourage local colleges to review and use staff development funds for training in information competency techniques.

- *AB3. Review legislation for funding.*
  Review the language of California legislation and regulations to identify funding for information competency that parallels support for counselors for training.

- *AB4. Position paper on training strategies.*
  Develop a position paper with the CCC Chancellor's Office, Academic Senate, and other groups on how best to administratively support information competency training outlining specific strategies and their costs and benefits, e.g., flex time, release time, site visits, travel and conference budgets for faculty. This position paper should address the issue of how to "fast-track" opportunities for information competency.

- *AB5. Continue and augment FII funding.*
  Continue and augment funding information competency as a priority for the Fund for Instructional Improvement.

- *AB6. Professional conferences.*
  Include information competency components in professional conferences.

- *AB7. Library schools.*
  Collaborate with California library schools to identify current courses and suggested courses for information competency training and retooling.

B. A Collaborative Environment, Articulation & Matriculation

More than half the students coming to community colleges are in need of some pre-collegiate training, reports the CCC Board's *The New Basic Agenda.* This problem was noted in the 1995 Cohen-Jan report and the Curzon CSU report of the same year. The January 1998 *Education Week* gave California schools an F in 'Resources' on its annual report card. The State's K-12 schools, once a national model, are now among the nation's worst in academic performance; hardly surprising since California ranks 41st in per-pupil spending. Collaboration with K-12 schools is essential to attempt a solution to the problem: CCC students, more than most in the nation, arrive under-prepared for the high-tech society in which they find themselves.

New and Continuing Roles for Libraries and Librarians

Workshop participants noted a library is not only a place, it is a function. The library of the future will continue to select, access, and subsidize information resources required throughout the college. Further, academic libraries have a long tradition of providing

direct assistance and instruction to their users. Participants noted the increasing need for library staff members, particularly reference librarians, to teach students and faculty to identify, locate and evaluate information wherever individuals or resources may reside.

"Librarians," states the Consortium for Educational Technology for University Systems in its *Academic Library in the Information Age: Changing Roles (1997)* are ideally positioned to "serve as leaders on their campuses during this period of transformation, facilitating the introduction of new technologies for learning, teaching, and research." As information systems increase in complexity and new resources continue to spring up, increasingly, librarians are called upon to assist faculty and students in identifying and evaluating many sources, and to serve as advisors and teachers.

The evolving role of librarians, as noted by the Consortium report, requires constant training to maintain currency. Also, given this charge, librarians will be:

- Partnering with discipline faculty and other specialists for delivery of information and instruction.
- Designing instructional programs for information access.
- Teaching students and faculty how to access information, whatever its format or location, and how to evaluate what they find.
- Serving as consultants on information resources, issues, and problems.
- Developing and implementing information policy.
- Creating information access tools.
- Selecting, organizing, and preserving information in all its formats.
- Serving as leaders and facilitators in introducing information technologies and ensuring their effective use.

Recommendations

- *B1. Partnership.*
  As stated by the Academic Senate's report, encourage an environment that "respects the individuality of each community college and is built on a collegial partnership of library faculty, instructional faculty, and media and instructional technology professionals."

- *B2. Articulation.*
  Collaborate and articulate with other sectors of California public education. " K-16 in California," the Academic Senate report states " is an interdependent, interconnected system. The CSU relies on the K-12 and community college sectors to prepare students ready for university study, and K-12 and the community colleges depend on the CSU to prepare qualified teachers for their classrooms. This same interdependence is crucial in information competence."

- *B3. Intersegmental discussion.*

"The need for intersegmental discussion and coordination of information competency is vital," states the Academic Senate report. "The focus of the CSU system," it continues, "has been for each campus to develop its own plan to incorporate information competency, with encouragement for multi-campus projects." CCC workshop participants, as well, overwhelmingly endorsed this process.

- *B4. The CAN System.*
  The California Articulation Number (CAN) System is a cross-reference course numbering system used to identify courses of comparable content toward the goal of maintaining standards of academic rigor for those courses, and ensuring transfer between and among participating institutions. The CAN System assures students that CAN courses on one participating campus will be accepted 'in lieu of' the comparable CAN course on another participating campus. This system should be used to locate comparable courses making use of information competency components.

- *B5. Unified program.*
  Explore the possibility of a unified program of bibliographic instruction among all three segments of California higher education. These segments should a) adopt and implement a program of bibliographic instruction. b) establish blanket articulation agreements, and c) guarantee transfer of bibliographic library instruction courses, using CAN numbers.

- *B6. Website courses.*
  Identify the website courses that include the set of core competencies identified in this report, possibly similar to the San Jose State University website and provide a comprehensive Statewide listing of such courses to assist in course development, planning, articulation and cooperation.

- *B7. Assess student proficiency.*
  Review various methods used to assess student proficiency in information competency to improve student success and mastery of information competency skills. The CSU report suggests "student mastery of skills of information competence could be assessed through a standardized test or through a performance or demonstration of the skills." Some CCC participants noted the folly of attempting to inculcate a long list of critical skills through one isolated course. Instead, they suggested that the focus be on a fundamental change across the curriculum and that follow-up studies address the issue of (1) matriculation assessment and (2) baseline models: what works; what doesn't and the related issue of prerequisites and requirements.

- *B8. Matriculation.*
  Matriculation services (identified in the California Education Code, Section 78212, subsections 3, A-E) require that students be provided with (1) assessment and counseling upon enrollment, (2) assistance in the identification of aptitudes, interests

and educational objectives for all education programs, (3) the evaluation of study and learning skills, (4) specialized support services as needed, and (5) advisement concerning course selection. Because of the central role information competency plays in study and learning in today's Information Age, it is suggested that information competency is a component of student study and learning skills. Thus, it is proposed the phrase "including information competency" be appended to the above listed section of the Code, following the words "study and learning skills."

- *B9. Education Code.*
  In the Extended Opportunity Programs and Services regulations, the current statutes in the California Code of Regulations, Title V, Chapter 7, Special Programs, Subchapter 2.5, Article 3 (Program standards) 56234 states "assessments shall, at minimum include: study skills assessment which determines how well the student is able to take lecture notes, outline written material, use library services, and use effective study techniques. It is proposed that the terms "information competency and study skills" be integrated throughout the Education Code and that funding be made available for EOP&S, as well as other students, student groups and special programs.

- *B10. Collaboration in teaching.*
  In teaching students contemporary skills in information competency, be it fundamentals of information competency in college orientation/learning skills classes or more advanced topics, explore methods of collaboration involving library faculty and other instructors.

C. Knowledge and Technology Infrastructure Support

Knowledge Infrastructure Support

Today's array of technologies and networks is providing dramatic changes in teaching, learning and research. Increasingly, these changes are evident in California community colleges and their libraries and resource centers. Ralph Wolff, Executive Director of the Accrediting Commission for Senior Colleges, WASC, provides a useful summary of the issue in *Conference Notes* of the November 1997 CSU Information Competence Workshop. "Higher education institutions and the curriculum," he writes, "must be supportive of the library in its role as a window of global knowledge. Libraries enable institutions to go beyond their physical boundaries.... Accreditation agencies should be the catalysts, which encourage institutions to adopt new dynamic ways of thinking which incorporate information competence into their curricula.... The present accreditation system is not working well under the new emerging educational model, one that is learning-centered, not resource-centered. The old standards are based on resources, structures, numbers of books, and faculty." The new standards, Wolff suggested, should

be a student learning-centered approach. In looking at how best to support information competency, workshop participants noted we must blend the best traditions of past library practices and services with new options, particularly those of electronic resources and the concept of a "virtual" university with a "virtual" library.

The Library Collection – Print and Electronic

The kind of collections CCCs should have and how they should be funded is of relevance to this report on information competency since students and faculty require materials in the libraries to support course development and offerings. Collection development issues are caught in a crossfire: studies have demonstrated that both print and electronic collections need upgrading, and yet funding opportunities are often weighted towards one facet of the collection – electronic access to bibliographic holdings and resources.

The California Education Code does not address the area of library collections. Title V of the California Code of Regulations addresses it from a quantitative perspective – somewhat outdated in this era of electronic information sharing. Collection development problems are summarized in a CCC Chancellor's Office publication: A *Study of the System's Library and Learning Resources over a Period of Seven Years, 1988-89 and 1994-95* (1997) by Carolyn Norman. It found:

- "Information and learning resources collections in the colleges have experienced a five percent annual decline over the study period of seven years."
- "Eighty-seven percent of the reporting campuses showed net collection deficits in 1993-94, according to national standards."
- "Information and learning resources collections have increased disproportionately to students, curriculum offerings, and faculty."
- Over the study period, library and learning resources faculty decline by 17 percent and classified personnel declined by 29.6 percent, while FTE students increased.
- The information revolution requires that students learn to retrieve and manipulate increasing amounts of information. The collections should be sufficient to support the courses, programs and degrees that are offered. Institutions cope with these problems as best they can, but these strategies do not provide equality of access to resources.

As noted by the CSU Task Force report, "in order for students to obtain a good education, they must have access to a wide variety of knowledge that challenges their minds, encourages them to read and research broadly, and makes them aware of the range and breadth of the knowledge developed by many people and many cultures. This means that the library's collections... must be strong and vital." Libraries require:

- Carefully selected and well-organized collections in all formats.
- Networked electronic information resources.
- Materials for self-paced learning.
- Programs supporting new ways of teaching and delivering information resources.
- A commitment to preservation and access for print, electronic and other formats.
- An infrastructure that supports instruction of all types of users in meeting their information needs.
- Necessary human and fiscal resources.
- Necessary plant, support services, communications and networks, interlibrary loan support, student assistants and operating hours.

Recommendations addressing this issue are integrated into the following section on Technology Infrastructure since it is impossible to discuss collection development options in today's world without making use of current technology in the storage and retrieval of information.

Technology Infrastructure Support

Building a solid technology infrastructure requires a long and steady commitment. The Chancellor's Office has, through budget preparation, studies and research, identified baseline support upon which to build a 21st century library or learning resources program, including the broad spectrum of resources found in CCC libraries. As discussed by Mary Ann Laun in her 1997 report *On-ramps to Electronic Highways,* Internet connections are expected to be completed this year. Workstations for Internet access are a priority need. Some libraries have adequate collections and research space, well staffed labs for students, and a large enough professional and classified support staff to provide support for college instruction. Others do not.

The Chancellor's Office *1998-99 Budget Report, November 1997,* provides a history of the challenges related to instructional equipment and library acquisitions: "prior to the inception of a State funded program for the replacement of instructional equipment in 1985, State funds were provided for instructional materials only when a building was constructed or remodeled. Tighter and tighter operating budgets resulted in a wide disparity in the community colleges' ability to replace outworn and obsolete instructional equipment. Much of the current equipment is obsolete and inadequate for properly educating students to satisfy present day needs of employers. Past State support for this program has made it impossible to modernize the college's instructional tools on a systematic basis. In 1985, the Chancellor's Office identified over $500 million of existing instructional equipment at the community colleges. Since that time, the figure has grown to nearly $900 million of existing instructional equipment and it still does not meet all the college's growing instructional needs for more up-to-date equipment. By updating the original survey, the annual cost to maintain and repair the colleges' existing equipment is now over $27 million. Additional yearly costs of over $60 million is needed to replace or upgrade the colleges instructional equipment in existing programs. The annual ongoing

cost therefore, amounts to over $87 million for just instructional equipment. This figure does not include the $420 million identified in the *California Community College Acquisition Needs: 1995-2005* for library materials, or the over $1 billion needed for technology infrastructure upgrade."

Recommendations

- *C1. CCC collections.*
  Upgrade and maintain 21st century CCC collections. A task force should review the findings of *California Community College Library Acquisition Needs: 1995-2005*, by Kirk Knutsen (1996) and provide recommendations towards a solution. This task force should take into consideration core needs, electronic resource options, K-12 enrollments, and projected increases in CCC enrollments as reported in *2005 – A Report of the Task Force for the Chancellor's Consultation Council*, (September 1997). This task force report should be developed in tandem with technology infrastructure proposals as identified in this planning document. Also, the report should review access options, such as *The Library of California,* a proposal by The California State Library of January 1996. Further, the report should provide recommendations on:
  - How to upgrade and maintain 21st century CCC collections, particularly the section on categorical support budget funding.
  - Supplemental matching funds, reallocations within libraries, increasing support budget revenues to augment acquisition budgets, benefit assessment districts, student library fee, State income tax checkoff, and private funds.

- *C2. Collection development.*
  Develop a basic core collection supporting curriculum requirements, including print and electronic products and services.

- *C3. Technology infrastructure.*
  Continue and augment the State funded Telecommunication Technology Infrastructure Program (TTIP), as well as other sources to provide libraries with the infrastructure to support connections to the CSU network, expand local and wide area networks, and improve technologies.

- *C4. Equipment and library materials.*
  Institutionalize an acquisition and replacement schedule of technology equipment and software in the library – replacement goal, for example, of 4-5 years for all computers. Prioritize the process of maintaining, replacing and upgrading outworn or obsolete instructional equipment and library materials.

- *C5. Consortium purchasing.*
  Develop a consortium and purchasing plan for library resources.

- *C6. Minimum standards.*
  Develop a plan for compliance with minimum standards (Title V, Section 58724) for resources for community college students as well as allocations based on FTES. Of particular urgency is the need to develop a method whereby CCC libraries and resource centers will be provided the resources to meet, at least, minimum standards for faculty librarians and support staff.

- *C7. Virtual University.*
  Recommend a task force study the impact of Virtual University students (enrolled or otherwise) on campus libraries and learning resources and augment relevant agreements to meet the needs of those students. Provide support for distance learners, including reference services, web access, and document delivery.

- *C8. Library Automation Project.*
  Upgrade the Chancellor's Office Library Automation Project to provide well staffed labs, adequate labs, professional and support staff, data and Internet connectivity to the TI standard, online catalogs and access to electronic and print resources by being Z39.50 compliant. Such funds are not to be interpreted as in lieu of general library acquisition funds.

- *C9. Interlibrary borrowing.*
  Streamline interlibrary borrowing of resources targeting a 24-hour turnaround. Further, provide e-mail delivery of electronic resources, using regional consortia and funds from special needs groups to support these efforts. This would be particularly supportive of the research needs of disabled students.

- *C10. Electronic classrooms.*
  Provide electronic classrooms as needed to allow teaching sites on information competency and related skills.

D. The Challenge of Developing Courses, Proposing Changes in Degree Requirements

The Academic Senate Report

The report explains "due to the diversity of available information technologies and the increasing amount of information conveyed through electronic interfaces, the instructional content of information competency must be expanded. Library orientations and bibliographic instruction programs as typically implemented by the majority of California Community Colleges are not comprehensive enough to fill the needs of our students as they cope with the explosion of information. The knowledge obtained in traditional library orientations and bibliographic instruction sessions is important and needs to be expanded to include an understanding of the issues of copyright, free speech,

censorship, access and privacy. The goal is to prepare students to work independently using electronic databases and information networks in addition to using traditional written materials to locate and present information."

Some members of educational segment groups caution that students are burdened with too many requirements at present, and that this places an even greater burden on them regarding course completion. Focus groups in the workshops overwhelmingly subscribed to the notion of a joint effort of librarians and discipline faculty. Project participants emphasized the need for a cooperative working relationship with discipline faculty as the only practical method to address this issue, in essence subscribing to the policy as recommended in the Academic Senate position paper.

California Statutory Law & Administrative Regulations

California statutory law and administrative regulations can be interpreted as supporting information competency. The Education Code (Section 78212, subsection 3 A-F) states students should be provided assessment and counseling upon enrollment, and that there should be evaluation of student study and learning skills with post enrollment evaluation of progress, with required advisement of students in remedial courses. It is difficult to disallow that information competency is but a facet of study skills, and thus, is already in the Code. Also, workshop participants drew attention to the California Code of Regulations statement on EOP&S funding which impacts on information competency: Title V, 56234 (c), requires the colleges to spell out how well eligible students are able to use library services and use effective study techniques. Further, participants observed that information competency is, in fact, a component of critical thinking and a facet of matriculation requirements.

Recommendations:

- D1. Education Code.
  Revise the Education Code and place it in the context of today's educational world. Insert the words "including information competency skills" after student study and learning skills, in the referenced sections of the Code.

- *D2. Critical thinking, learning and study skills.*
  Include in the Code the requirement that information competency training is provided to all students, and that information competency be defined as a study skill, a learning skill, and a critical thinking skill.

- *D3. Student equity.*
  The CCC Chancellor's Office should identify and provide the amount of funding required to support programs in this area for all entering students.

E. Models

The implementation of an information competency program will be most effective if it is integrated horizontally and vertically throughout the curriculum. The Academic Senate report, the CSU study, and the vast majority of workshop participants agree. The Academic Senate report states "an ideal plan would integrate information competency in all courses in the curriculum. A separate course, taken once in a student's career, should not be expected to satisfy the key components of information competency." It is recommended that the fundamentals of information competency be introduced in a college orientation/learning skill course. The concept of information competency can then be further developed by embedding them in general education transfer courses and in courses that are required for certificate and/or degree programs. Because the ability to use information effectively and wisely is crucial to a student's success in higher education, it seems natural to incorporate information competency into the general education curriculum required of all students. It could be added as a separate course, or as a component in several, or all, of the courses in the general education curriculum. It is possible to identify the competencies that all students should have, but sometimes discipline-specific competencies are needed. Those competencies should be integrated into the curriculum of that discipline.

Presently, orienting members of the campus community on information resources available to them and how to make use of those resources is widespread throughout the California community colleges and CSU campuses. "In many ways," the CSU study reports, "this is an ideal place to begin a sustained emphasis on the student's acquiring information skills, the 'orientation' nature of the course and the necessity to cover all student support services and study skills usually dictates that the component devoted to information competency be brief." Many colleges employ variations of the following models:

(1) General orientations emphasizing the basic skills necessary to find information in today's electronic environment.
(2) A bibliographic/ library instruction course.
(3) Introduction to Libraries and Library Materials, a library technology course.
(4) Internet Research Strategies, a library technology course.
(5) 'One-shot' instructional sessions taught by librarians.
(6) Formal instruction for faculty, administration and staff on new library resources.
(7) Information competency in general education.
(8) Information competency in major areas.
(9) Information competency as an add-on to another course.
(10) Information competency through competency-based mastery
(11) Standardized tests and other methods of assessing performance or demonstration of skills.

Recommendations

- *E1. Fund pilot projects.*

Fund pilot projects, including collaborative efforts among colleges and between CCCs and CSU, UC, K-12 and industry, to develop effective core GE models which integrate information competency into the curriculum.

- *E2. Review effective models.*
  Review effective models presently in place.

- *E3. Listservs.*
  Identify useful listservs, discipline based and/or general.

- *E4. Student participation.*
  Include students as part of the collaborative process, particularly in developing materials used in resource-based instruction.

- *E5. Support course development.*
  Investigate the use of flextime, release time, sabbaticals, stipends, and/or other means to support specific competence assignments to develop courses with information competency components.

- *E6. Evaluation.*
  Evaluate effectiveness and share results of various models developed in pilot programs or from other sources.

- *E7. Assessment methods.*
  Identify effective methods of assessment of student mastery of information competency skills.

Samples of these models are explained in Appendix E.

Conclusion

"Information competence has many natural departmental affiliations," states the CSU report, "and simultaneously no specific departmental affiliation. Therefore, it has no obvious champion to forward its cause among discipline faculty." The Academic Senate report specifically suggests that information competency is something that could be integrated into the curriculum in various ways and in various disciplines.

A timeline identifies an implementation schedule for the 43 proposals in this planning document.

Those of us who participated in this planning process, representing a cross section of California community colleges, are convinced of the need for California community college students to be information competent. Our investigation included a review of the literature, consultations with faculty, students, and administrators, meetings with state and national government officials, and information competency innovators. This document is reinforced by recent position papers from the CCC Chancellor's Office, the Academic Senate, CSU studies and elsewhere. It is time to act, in a collaborative approach, on these recommendations. Learning, the mission of our institutions, will be enhanced by these proposals.

Timeline for Implementation of Recommendations

Issues	Activity and (Recommendations)	Year 1	Year 2	Year 3++	Priority
Staff Development	Faculty development strategy				
	♦ Statewide conference (AA1)	Begin	Continue	Continue	1
	♦ Subsequent conferences (AA2)		B	C	
	Systematize/identify funding opportunities	B	C	C	3
	♦ Regional projects (AB1)		B	C	
	♦ Continue/augment funding of FII 10% Set Aside (AB5)	B	C	C	
	♦ Website (AA3)	B	C	C	
	♦ Encourage local colleges to use local funds (AB2)	B	C	C	
	♦ Fund hardware and software (AA6)	B	C	C	
	♦ Consultant (AA4, AA5)		B	C	7
	Legislation for funding (AB3, D3)	B	C	C	
	Position paper on training strategies (AB4)		B	C	
	• Articulation (B2, B4)		B	C	
	• Matriculation (B7, B8)		B	C	
	• Ed Code (B9, D1)		B	C	
	• Technology infrastructure (C3, C4, C8)		B	C	
	• Critical thinking, learning and study skills (AA5, D2)		B	C	
	Professional conferences (AB6)			B	
	Library Schools (AB7)			B	
Collaborative environment	Partnership: Library and faculty (B1)	B	C	C	
	Articulation and CAN System (B2, B4)		B	C	
	Intersegmental discussion (B3)		B	C	
	Unified program of information competency (B5)			B	

Issues	Activity and (Recommendations)	Year 1	Year 2	Year 3++	Priority
	Matriculation services (B7, B8)			B	
	Collaboration in teaching (B10)		B	C	
	Website courses (B6)		B	C	
	Ed Code (B9, D1))			B	
Knowledge/Technology Infrastructure	Technology infrastructure (C3, C4, C8)	B	C	C	
	Upgrade/augment Library Automation Project – adequate labs, professional support staff, telecommunications infrastructure (C8)	B	C	C	
	Provide electric classrooms to allow teaching sites on information competency (C10)	B	C	C	
	Hardware/software (C4)	B	C	C	
	Task Force 2005 (C1)	B	C	C	
	Funding for equipment (C4)	B	C	C	4
	Consortium purchases (C5)	B	C	C	
	Collection development (C1, C2)	B	C	C	5
	Streamline interlibrary borrowing (C9)	B	C	C	
	Minimum standards re staffing, etc. (C6)		B	C	6
	Provide support for Virtual University (C7)		B	C	
Challenge	Ed Code (D1, B9)	B	C	C	
	Student equity (D3)	B	C	C	
	Recognize information competency as study skills (D2)		B	C	
Models	Fund pilot programs (E1)	B	C	C	2
	Develop courses using flex time, etc. (E5)	B	C	C	
	Identify listservs (E3)	B	C	C	
	Review effective models (E2)	B	C	C	
	Evaluation of models (E6)		B	C	
	Student participation (E4)	B	C	C	
	Assessment methods (E7)	B	C	C	

Appendix A.

Information Competency Standards and Resolutions

1997

Cal Poly Pomona Academic Senate. *Resolution on Information Competence, What is Information Competence?* and from the *ACRL Statement of Objectives for Academic Bibliographic Instruction.* 1977. 3 p.
Access: http://www.csupomona.edu/library/InfoComp/home.html

CARL Task Force to Recommend an Information Literacy Standard to WASC. *Draft Recommendations to WASC on an Information Literacy Standard.* September 1997. 2 p.
Access: http://www.santarosa.edu/~kathy/ICC

Los Angeles Unified School District. *Student Learning Standards*. Language Arts. n.d.

National Information Literacy Initiative (NILI). Includes a useful 6-page bibliography on the topic. Last updated 11/10/97. Access: http://www.ala.acrl/nili/nilihp.html.

National Information Literacy Initiative (NILI) Announcements. Post ALA Midwinter Forum on the topic of a National Information Literacy Initiative. Last updated 11/10/97.
Access: http://www.ala.org./acrl/nili/announce.html

1996

Association of American School Librarians (AASL)/Association for Educational Communications & Technology (AECT) National Guidelines Vision Committee. *Information Literacy Standards for Student Learning, Draft #5*. October 7, 1996.
Access: www.ala.org/acrl.html

Education Council for Technology in Learning. *Recommendations Regarding Technology-Based Content and Performance Standards.* California Department of Education, Educational Technology Office, July 8, 1996.

1995

California Library Association. *Public Policy – Empowering Users.* Adopted by Assembly November 14, 1995.

1994

Standards for Community, Junior and Technical College Learning Resources Programs. (The final version approved by ACRL, ALA and AECT in 1994).
Access: http://www.santarosa.edu/~kathy/ICC

1993

American Association of School Librarians. *Position Statement on Information Literacy: A position paper on information problem solving.* 1993. Developed by the Wisconsin Educational Media Association and endorsed by the Wisconsin Department of Public Instruction. Adopted by the National Forum on Information Literacy, an umbrella group of 60 organizations.
Access: www.ala.org/aasl/positions/

1987

ACRL/BIS Task Force. *Model Statement of Objectives for Academic Bibliographic Instruction.* 7 p. and ACRL. *Guidelines for Instruction Programs in Academic Libraries.* 3 p.
Access: http://ala.org/acrl/guides/guiis.html

Appendix B

Instruction in California Community Colleges: the Information Competency Component

Chancellor's Office, California Community Colleges began to coordinate the college system's library and learning resources programs and services in 1989

Coordinated Efforts to Identify and Advance Instruction Issues

- Task Force (1990-1992) recommends the Instruction goal to "promote library and learning resources programs as a means of enhancing the teaching and learning process and promotion of intellectual growth." Gita Satyendra-Holland, Saddelback College, Chair

- Intersegmental Joint Faculty Project, 1992-1993. *Bibliographic Instruction/Information Literacy: Articulation between the Community Colleges. California State University's and University of California Systems.* San Diego Mesa College, Karen Kaye, Project Director

- Intersegmental Joint Faculty Project, 1994-1995. *Basic Library and Information Competencies: A unified State-Wide Approach*, City College of San Francisco, Inez Cohen, Project Director

- Intersegmental Joint Faculty Project 1995-1996. *Intersegmental Articulation Bibliographic Instruction Courses*, City College of San Francisco, Fiscal Agent

Information Competency: A Status Report to the Board of Governors, California Community Colleges, March 1996.

- The report replied to the Board of Governors policy questions: What should be the basic guiding principles for education planning in the next decade? The report reviewed developments in the field of information competency and identified steps to be undertaken by the college system in order to further policy discussions and development.

System Responses to Information Competency Initiatives

- The Board of Governors identifies information competency as a system-wide policy priority in 1996.

- The Academic Senate for California Community Colleges adopts a resolution in support of information competency in 1996.

- The Faculty Association of California Community Colleges (FACCC) and the Academic Senate conduct an information competency workshop in 1997.

- The Counseling and Library Faculty Issues Committee of the Academic Senate develop a position paper on information competency from 1996-1998.

- The California Association of Research Libraries presents a workshop on information competency in 1997.

- Information competency is identified as essential to student success by the Chancellor's Office in 1997.

- Information competency is funded as part of the Student Success Institutionalization Fund in 1997.

- The Chancellor's Office funds the development of an Information Competency Plan for the college system through the Fund for Instructional Improvement, Board of Governors for 1997-98.

- Information Competency Ad Hoc Advisory Committee assembles for first meeting and establishes a website: http://www.santarosa.edu~kathy/ICC in November 1997.

- The Information Competency Ad Hoc Advisory Committee project team meets with constituents in five regional workshops in February-March 1998 to develop an information competency plan. The team also meets with various educational segment groups.

- The State Academic Senate for California Community Colleges adopts their committee report *Information Competency in the California Community Colleges* in April 1998.

- The Information Competency Draft Plan is reviewed in May 1998 by the Information Competency Ad Hoc Committee.

Appendix C

Information Competency Plan Project Meetings

Information Competency Ad Hoc Advisory Committee meetings

October 27, 1997 – Conference call
November 5, 1997 – Conference call
December 15, 1997 – Meeting, Laney College, Oakland
March 13, 1998 – Conference call
May 15, 1998 – Meeting, City College of San Francisco

Five regional workshops (139 participants from 67 colleges, plus representatives from CSU, George Mason University and one high school library)

February 20, 1998 – Library Regional Workshop, Foothill College
February 23, 1998 – Library Regional Workshop, College of the Sequoias
February 24, 1998 – Library Regional Workshop, Chico
March 2, 1998 – Library Regional Workshop, Riverside Community College
March 3, 1998 – Library Regional Workshop, LA Pierce College

Consultations

February 27, 1998 – Faculty Assoc. of Calif. Community Colleges Conference, Pasadena
March 4, 1998 – Chief Student Services Officer, Palm Springs
March 11, 1998 – Chief Executive Officers, Pasadena
March 18, 1998 – Chief Instructional Officers, Sacramento
March 20, 1998 – Calif. Student Assoc. of Community Colleges, Sacramento
March 27, 1998 – Council of Chief Librarians, Glendale
March 27, 1998 – Faculty Assoc. of Calif. Community Colleges, Santa Monica College
March 28, 1998 – Academic Senate Board, San Francisco
April 1, 1998 – Chancellor's Office & CCC 7th Annual Conference, Palm Springs
April 3, 1998 – Library & Learning Resources Programs Advisory Board, Palm Springs
April 23, 1998 – Academic Senate Spring Session, San Francisco

Appendix D: Workshop Participants

ADALIAN	PAUL	CAL POLY SAN LUIS OBISPO
ALIRE	WILIFRED	KINGS RIVER COMMUNITY COLLEGE
AMER	ROSALIE	COSUMNES RIVER COLLEGE
AUYEUNG	SHUK-CHUN	GAVILAN COLLEGE
AXELSON	DEB	SAN BERNARDINO VALLEY COLLEGE
BADRKHAN	KAMIRAN S.	COLLEGE OF THE SEQUOIAS
BAILEY	LINDA	POTERVILLE COLLEGE
BATCHEV	JULIA	MONTEREY PENINSULA COLLEGE
BELL	FRED	TAFT COLLEGE
BLACKMAN	MICHELLE	GROSSMONT COLLEGE
BOBP	MARYELLEN	SANTA ANA COLLEGE
BONNINGTON	SUSAN	BUTTE COLLEGE
BRENNER	ERIC	SKYLINE COLLEGE
BRETALL	LESLIE	COLLEGE OF THE CANYONS
BREWER	CLYDE	SAN JOSE STATE UNIV.
BROCKENBROU	CELIA	RIVERSIDE COMMUNITY COLLEGE
BROSE	FRED	RIVERSIDE COMMUNITY COLLEGE
BROWN	ROSANNA	LASSEN COMMUNITY COLLEGE
BUSCHE	DON	SADDLEBACK COLLEGE
BYRD	RON	FRESNO CITY COLLEGE
CAMPBELL	ELISABETH	L.A. HARBOR COLLEGE
CARSON	NANCY	L.A. HARBOR COLLEGE
CARTER	QUENT	SOLANO COLLEGE
CASAGRANDE	CLAUDIA	TAFT COLLEGE
CASSON	ED	L.A. MISSION COLLEGE
CEN	LUOZHU	BUTTE COLLEGE
CHANG	LINDA L.	RIVERSIDE COMMUNITY COLLEGE
COBOS	ANAMARIA	SADDLEBACK COLLEGE
COHEN	INEZ	CITY COLLEGE OF SAN FRANCISCO
COLEMAN	ANITA	SANTA ANA COLLEGE
COLLING	BRENDA	GLENDALE COMMUNITY COLLEGE
COLLING	MICHAEL	GLENDALE COMMUNITY COLLEGE
CORONADO	SHIRLEIGH	BUTTE COLLEGE
CROWE	ELAINE	SHASTA COLLEGE
CUOVATZ	LINDA K.	SANTIAGO CANYON COLLEGE
DERUM	CLAUDIA	COLLEGE OF THE DESERT
DOMAN	MONICA	CYPRESS COLLEGE
DOSU	TABZEERA	BUTTE COLLEGE
DUNLAP	MARTY	BUTTE COLLEGE
ESCATIOLA	EVELYN	EAST L. A. COLLEGE
ESTON	DORA	L.A. VALLEY COLLEGE
FALLER	PAMELA	COLLEGE OF THE SEQUOIAS
FINNEY	NANCY	COLLEGE OF THE SEQUOIAS

FISCHER	RUSS	SAN JOSE CITY COLLEGE
FLY	CONNIE	COLLEGE OF THE SEQUOIAS
FOERSTER	MARION	MIRA COSTA COLLEGE
FOURIE	DENISE	CUESTA COLLEGE
FREIDENRICH	LEAH	RANCHO SANTIAGO COLLEGE
FROLOFF	KATHY	WEST L.A. COLLEGE
FRONGIA	TERRI	COLLEGE OF MARIN
FUNES	CAROLYN	PALOMAR COMMUNITY COLLEGE
GARCIA	YOLANDA	SANTA ANA COLLEGE
GERINGER	ELLEN	CONTRA COSTA COLLEGE
GIBSON-LOTT	ANNE	LOS ANGELES PIERCE COLLEGE
GILETTE	KAREN	FOOTHILL COLLEGE
GOGIN	SALLY	L.A. HARBOR COLLEGE
GOLZ	NANCY	YUBA COLLEGE
GRIGSBY	ALICE	EL CAMINO COLLEGE
HABIB	FATEN	MOORPARK COLLEGE
HAUGH	JUDITH	RIVERSIDE COMMUNITY COLLEGE
HAUSRATH	DON	GAVILAN COLLEGE
HAYCOCK	GINA	COLLEGE OF THE SEQUOIAS
HAYWARD	MARILYN	CANADA COLLEGE
HOWELL	JOANNE	GAVILAN COLLEGE
JAMES	GALE	L.A. PIERCE COLLEGE
JAN	ELMER	CITY COLLEGE OF SAN FRANCISCO
JOHNSON	WANG	SAN DIEGO MESA COLLEGE
JONES	BRENDA	GLENDALE COMMUNITY COLLEGE
KANG	BYUNG IN	PALOMAR COMMUNITY COLLEGE
KEEN	GREG	COLLEGE OF THE SEQUOIAS
KENT	CONNIE	COLLEGE OF THE SEQUOIAS
KIM	YANGHEE	WEST VALLEY COLLEGE
KLEPINGER	ED	MISSION COLLEGE
LA BARGE	MARY	MOORPARK COLLEGE
LAGIER	JENNIFER	HARTNELL COLLEGE
LAUN	MARY ANN	PASADENA CITY COLLEGE
LEWIS	KATHIE	COLLEGE OF THE SEQUOIAS
LIPSCOMB	LORETTA	TAFT COLLEGE
LIVINGSTON	JOYCE	L.A. TRADE-TECH COLLEGE
LYM	BRIAN	CANADA COLLEGE
MALLER	YVONNE	SACRAMENTO CITY COLLEGE
MAURO	ELEANOR	COLLEGE OF THE SISKIYOUS
MAYO	NANCY	OHLONE COLLEGE
MCCOLLUM	PATRICIA	L.A. SOUTHWEST COLLEGE
MCDONALD	MARILYN	FOOTHILL COLLEGE
MCGREEVY	KATHY	SANTA ROSA JUNIOR COLLEGE
MENDRINOS	ROXANNE	FOOTHILL COLLEGE
MITOMA	DONA	PASADENA CITY COLLEGE
MOONEYHAM	DEE	TAFT COLLEGE
MOSSON	LESLIE	ALLAN HANCOCK COLLEGE
MOTTE	HORTENSE	CONSUMNES RIVER COLLEGE

NEWMAN	DAK	L.A. MISSION COLLEGE
NG	REBECCA	RIVERSIDE COMMUNITY COLLEGE
NOLAN	ROBERT	INSTITUTE OF COMPUTER TECH.
NORMAN	COLETTE	COLLEGE OF SAN MATEO
NORMAN	CAROLYN	CCC/CHANCELLOR'S OFFICE
NORTON	DALE	COLLEGE OF THE SEQUOIAS
ONTELL	VALERIE	SAN DIEGO MESA COLLEGE
PALMER	BARBARA	SANTA ANA COLLEGE
PATTERSON	WILLIAM	FOOTHILL COLLEGE
PEDROZA	LUIS	SANTA ANA COLLEGE
PERKINS	ANNE	CAL STATE UNIVERSITY, NORTHRIDGE
PRATT	MARTHA	CANOGA PARK HIGH SCHOOL
RINNANDER	ELIZABETH	L.A. PIERCE COLLEGE
RISCH	JOAN	COLLEGE OF MARIN
ROBIN	FLORENCE	L.A. PIERCE COLLEGE
RODRIGUEZ	HARMONY	OXNARD COLLEGE
RODRIGUEZ	RON	RIO HONDO COLLEGE
ROTELLA	SALVATORE G.	RIVERSIDE COMMUNITY COLLEGE
ROTH	LORIE	CALIFORNIA STATE UNIVERSITY
RUPERT	DOROTHY	L.A. PIERCE COLLEGE
SHUMWAY	VINTA MARIE	ORANGE COAST COLL
SIMMS	DENISE	CCC/CHANCELLOR'S OFFICE
SMALLEY	TOPSY	CABRILLO COLLEGE
SMITH	GORDON	CALIFORNIA STATE UNIVERSITY
SPALSBURY	JEFF	POTERVILLE COLLEGE
STEUBEN	LARRY	COLUMBIA COLLEGE
SUGRANES	MARIA	SANTA ANA COLLEGE
TENPAS	CYNTHIA	RIVERSIDE COMMUNITY COLLEGE
THIESSEN	STACIA	SACRAMENTO CITY COLLEGE
THOMAS	CARMELITA	L.A. PIERCE
THOMPSEN	SANDY	L.A. MISSION COLLEGE
THUNEN	CHARLOTTE	FOOTHILL COLLEGE
UESUGI	ISAO	COLLEGE OF THE CANYONS
UKWU	DELE	LONG BEACH CITY COLLEGE
URQUIZU	LINDA	RIVERSIDE COMMUNITY COLLEGE
VASQUEZ	BARBARA	L.A. CITY COLLEGE
WARMINGTON	SANDY	SACRAMENTO CITY COLLEGE
WHALEN	PAUL	L.A. PIERCE COLLEGE
WHITAKER	CHAR	COLLEGE OF THE DESERT
WHITE	MONICA	LONG BEACH CITY COLLEGE
WIRTH	JEAN	FOOTHILL COLLEGE
WONG	CECILIA	RIVERSIDE COMMUNITY COLLEGE
WONG	LANA	SANTA ANA COLLEGE
WU	JULIA	BOARD OF GOVERNORS, SACRAMENTO
YAMAKAWA	LINDA	COLLEGE OF THE SEQUOIAS
YEPES	MARIA-ELENA	EAST L. A. COLLEGE
YOUNG	JAMES	GEORGE MASON UNIVERSITY
YOUNG	JEAN	FOOTHILL COLLEGE

Appendix E

Information Competency Sample Models

This appendix makes extensive use of a workshop presentation: *Bibliographic Instruction at the Rosenberg Library, City College of San Francisco* by Elmer Jan and Inez Cohen, CCSF faculty librarians.

General Orientation Model

- A general orientation model emphasizing the basic skills necessary to find information in today's electronic environment, focusing on (1) search options available on an OPAC, (2) using print indices and electronic databases to find citations for periodical articles and (3) resources on the worldwide web and elsewhere.

- City College of San Francisco, which has a large ESL population, has developed an ESL Pre-Library Orientation assignment to acquaint upper level ESL students with the terms and vocabulary used in the orientations; for lower level ESL students, the Reference Department offers one-hour class orientations to the library.

Related Courses Using City College of San Francisco Examples

- A one-unit course on using books and libraries, a required course for two campus programs, and fulfilling the San Francisco State University library requirement.

- Library Information Technology 10: Introduction to Books and Libraries, a one-unit self-paced course.

- Library Information Technology 51: Introduction to Books and Libraries, a three-unit course providing a general introduction to librarianship.

- Library Information Technology 57: Internet research strategies, a two-unit course teaching students how to formulate search strategies and use Internet access tools to identify appropriate sources to retrieve information, as well as how to critically compare and evaluate information found on the Internet with other sources.

- Formal instruction for faculty, administration and staff is an integral part of the bibliographic instruction program. Each semester a series of workshops is provided as part of staff development. This combines an orientation on the more traditional library resources with a spectrum of electronic resources. This program assists in (1) motivating instructors to successfully incorporate information competency in classroom instruction, (2) keeping faculty informed about the new library materials and technologies available for research, (3) offering support in designing successful assignments, particularly in light of the volatility of the electronic environment; and (4) encouraging classroom and library faculties to find opportunities to work collaboratively in developing information competency skills across the curriculum.

General Education Model

- As stated in the Academic Senate report, "because the ability to use information effectively and wisely is crucial to a student's success in higher education, it seems natural to incorporate information competency into the general education curriculum required for all students. It could be added as a separate course or it could be added as a component in several, or all, of the courses in the general education curriculum." This statement parallels the observations on GE in the CSU Curzon report.

Major Area Model

- "It is possible," states the Academic Senate report, " to identify competencies that all students should have, but sometimes discipline-specific competencies are needed. These competencies should be integrated into the curriculum of that discipline. For example, there are things about the acquisition of information that nursing students should know that are different from what needs to be known by a student studying fine arts. Some models for including information competency in the discipline choose to integrate this information competency into the introductory course in the discipline. These introductory courses in a discipline typically familiarize students to the methodologies, terminology, and resources of a discipline, including ways to acquire information."

As an Add-On to Another Course

- The Academic Senate report notes "another model treats information competency as an enhancement to an already established course in the discipline; an 'add-on' to the course. For example, students enrolled in a psychology course might gain one extra unit for completing the information competency component, developed by the faculty teaching the course, in consultation with library faculty or other faculty having specific expertise."

Competency-Based Mastery

- The CSU Curzon report notes "one of the most influential trends in recent years has been the university's willingness to award academic credit on the basis of students demonstrating mastery of skills as opposed to simply taking courses." Possibly California's forthcoming "Virtual University" will allow, via Internet, student assessment instruments regarding mastery of a subject or a set of skills.

- Examples: The Institute of Computer Technology, a California public school agency provides training in a number of courses for which the University of California Santa Cruz awards credit. ICT is, as well, developing educational technology programs in partnerships with the Intel Foundation, UCLA, NASA, and the University of Nebraska.

- Interactive websites and distance education projects are underway at Cal Poly and CSU campuses. This type of project would appear to provide opportunities for interleaving information competency components developed elsewhere into a specific community college course.

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